PENDING CLAIMS AS AMENDED

Please amend the claims as follows:

1. (Currently amended) [In a wireless communication system, a] A method for estimating an original pilot signal, the method comprising:

receiving a CDMA signal;

[despreading the CDMA signal;]

obtaining a pilot signal from the CDMA signal; and

estimating an original pilot signal using a pilot estimator [that includes more than one filter and that includes a switching method for using the more than one filter, wherein the switching method uses a prediction error, and wherein the pilot estimator provides a pilot estimate.] having first and second filters and a switching component, each of the first and second filters generating from the pilot signal a filter estimate and prediction error, and wherein the switching component applies a combining coefficient to each of the filter estimates based on the filter estimate's prediction error, and combines the filter estimates to produce a pilot estimate.

2. (Currently amended) The method as in claim 1, wherein the first and second filters each [pilot estimator] includes a [first] Kalman filter [and a second Kalman filter].

3. (Original) The method as in claim 2, wherein the Kalman filters are implementing Infinite Impulse Response filters.

Claims 4-5 (canceled)

6. (Currently amended) The method as in claim [[5]] 3, wherein the switching component [[method]] uses a first error variance to compute the coefficient to apply to the first filter estimate

and a second error variance to compute the combining coefficient to apply to the second filter estimate.

7. (Original) The method as in claim 6, wherein the pilot estimate is obtained according to the following:

$$\hat{s}^{+}_{k,MSE} = \alpha_1 \hat{s}^{+}_{k}(\theta_1) + \alpha_2 \hat{s}^{+}_{k}(\theta_2)$$

where

$\hat{s}^{+}_{k,MSE}$ is the pilot estimate,

α_1, α_2 are combining coefficients,

$\hat{s}^{+}_{k}(\theta_1)$ is the first filtered estimate, and

$\hat{s}^{+}_{k}(\theta_2)$ is the second filtered estimate.

8. (Original) The method as in claim 7, wherein each combining coefficient is obtained through use of a posteriori probabilities function obtained according to the following:

$$f[k] = \ln\frac{\Omega_1}{\Omega_2} - \frac{\hat{\Omega}_2[k]}{\Omega_2} + \frac{\hat{\Omega}_1[k]}{\Omega_1}$$

where

$\hat{\Omega}_1$ is the first error variance, and

$\hat{\Omega}_2$ is the second error variance.

9. (Currently amended) The method as in claim 1, wherein the switching component uses [method comprises] a soft-switching method.

10. (Currently amended) The method as in claim 1, wherein the switching component uses [method comprises] a hard-switching method.

11. (Original) The method as in claim 1, wherein the method is implemented in a mobile station.

12. (Currently amended) A mobile station, [for use in a wireless communication system wherein the mobile station is configured to estimate an original pilot signal, the mobile station] comprising:

[an antenna] a receiver for receiving a CDMA signal;

[a receiver in electronic communication with the antenna;]

a front-end processing and despreading component [in electronic communication with the receiver] for [despreading] obtaining a pilot signal from the CDMA signal; and

a pilot estimation component having first and second filters and a switching component, each of the first and second filters generating from the pilot signal a filter estimate and prediction error, and wherein the switching component applies a combining coefficient to each of the filter estimates based on the filter estimate's prediction error, and combines the filter estimates to produce a pilot estimate. [in electronic communication with the front-end processing and despreading component for estimating an original pilot signal using a pilot estimator that includes more than one filter and that includes a switching method for using the more than one filter, wherein the switching method uses a prediction error, and wherein the pilot estimator provides a pilot estimate; and

a demodulation component in electronic communication with the pilot estimation component and the front-end processing and despreading component for providing demodulated data symbols to the mobile station.]

13. (Currently amended) The mobile station as in claim 12, wherein the [pilot estimator] first and second filters each includes a [first] Kalman filter [and a second Kalman filter].

14. (Original) The mobile station as in claim 13, wherein the Kalman filters are implementing Infinite Impulse Response filters.

Claims 15 – 16 (canceled)

17. (Currently amended) The mobile station as in claim [[16]] 14, wherein the switching component [[method]] uses a first error variance to compute the combining coefficient to apply to the first filter estimate and a second error variance to compute the combining coefficient to apply to the second filter estimate.

18. (Original) The mobile station as in claim 17, wherein the pilot estimate is obtained according to the following:

$$\hat{s}^{+}_{k,MSE} = \alpha_1 \hat{s}^{+}_{k}(\theta_1) + \alpha_2 \hat{s}^{+}_{k}(\theta_2)$$

where

$\hat{s}^{+}_{k,MSE}$ is the pilot estimate,

α_1, α_2 are combining coefficients,

$\hat{s}^{+}_{k}(\theta_1)$ is the first filtered estimate, and

$\hat{s}^{+}_{k}(\theta_2)$ is the second filtered estimate.

19. (Original) The mobile station as in claim 18, wherein each combining coefficient is obtained through use of a posteriori probabilities function obtained according to the following:

$$f[k] = \ln\frac{\Omega_1}{\Omega_2} - \frac{\hat{\Omega}_2[k]}{\Omega_2} + \frac{\hat{\Omega}_1[k]}{\Omega_1}$$

where

$\hat{\Omega}_1$ is the first error variance, and

$\hat{\Omega}_2$ is the second error variance.

20. (Currently amended) The mobile station as in claim 12, wherein the switching component uses [method comprises] a soft-switching method.

21. (Currently amended) The mobile station as in claim 12, wherein the switching component uses [method comprises] a hard-switching method.

22. (Currently amended) A mobile station, [for use in a wireless communication system wherein the mobile station is configured to estimate an original pilot signal, the mobile station] comprising:

means for receiving a CDMA signal;

[means for despreading the CDMA signal;]

means for obtaining a pilot signal from the CDMA signal; and

means for estimating an original pilot signal using a pilot estimator [that includes more than one filter and that includes a switching method for using the more than one filter, wherein the switching method uses a prediction error, and wherein the pilot estimator provides a pilot estimate.] having first and second filters and a switching component, each of the first and second filters generating from the pilot signal a filter estimate and prediction error, and wherein the switching component applies a combining coefficient to each of the filter estimates based on the filter estimate;s prediction error, and combines the filter estimates to produce a pilot estimate.